RYAN PUSKAR

R&D SCIENTIST, ELECTRON MICROSCOPY   US CITIZEN

Objective: Postdoc focusing on electron microscopy and material science
Interests: Microscopy, material science, nanomaterials, data processing, biochemistry

Education

PhD Candidate, Biochemistry . . . . August 2020 – Spring 2025 – Arizona State University   GPA 4.0

BS Biochemistry (Med. Chem) . . . . August 2016 – May 2020 – Arizona State University   GPA 3.4
Honors Thesis: Evaluating Accuracy in Online Science News Articles
National Merit Scholar, Sandia Lockheed Martin Scholarship Recipient

Employment History

August 2020 – Present . . . . Graduate student, Chiu Lab – Center for Applied Structural Discovery
Biodesign Institute, Arizona State University, Tempe AZ
20 hr/week TA position held during all sessions at ASU

May 2022 – August 2022 . . . . R&D Intern – Center for Integrated Nanotechnologies
Sandia National Laboratories, Albuquerque NM

May 2020 – August 2020 . . . . Receptionist, Vista del Sol at ASU

August 2019 – May 2020 . . . . Undergraduate Researcher, Chiu Lab at ASU

Publications

Puskar, R., Du Truong, C., Swain, K. et al. Molecular asymmetry of a photosynthetic supercomplex from green sulfur bacteria. Nature Communications 13, 5824 (2022). doi.org/10.1038/s41467-022-33505-4

Skills

Electron microscopy:
- Experience w/ Tecnai TF20 & TF30; Hitachi FlexSEM1000; Thermofisher Scios II, Helios UX5, Talos, Krios
- Bio: Negative stain, single-particle cryo-EM, tomography/cryo-ET, micro-ED
- Material science: SEM imaging, (cryo-)FIB lamellae/liftouts, microstructure analysis via EDS
- Microscope, vacuum chamber, part assembly/storage/modification/inventory

Biochemistry:
- Aerobic & anaerobic bacterial cell culture
- Membrane protein purification/isolation/analysis, membrane mimetics, DNA purification & modification
- Gel electrophoresis, affinity/size/tag chromatography, prep and stain for EM analysis, etc

Computational (Windows, Linux, & MacOS):
- Cryo-em single-particle and tomography data analysis with ChimeraX, Coot, imod, etomo
- Basic python, bash, html, css, and javascript (github.com/rjpuskar)
- CAD with Fusion360, slicing with Cura, 3D printing of lab fixtures
- Video & audio editing for science communication – Sony Vegas, Ableton, Audacity, Photoshop, PowerPoint
- Hardware expert – PC assembly, maintenance, and setup, troubleshooting, overclocking/modification

References available upon request.